HEALTH PROFESSIONS COUNCIL OF SOUTH AFRICA
PROFESSIONAL BOARD FOR RADIOGRAPHY AND CLINICAL TECHNOLOGY

GUIDELINES FOR EXAMINATIONS OF FOREIGN QUALIFIED RADIOGRAPHERS IN THE CATEGORY RADIATION THERAPY

1. PREAMBLE

These assessment guidelines underpin the commitment of the Radiography and Clinical Technology (RCT) Board towards ensuring the competency of health practitioners registers falling within the ambit of the Board. The guidelines under the overall mandate of the Health Professions Council of South Africa (HPCSA) is to protect the public and promote the health of all people in South Africa by ensuring high standards of education and training.

2. PURPOSE

The purpose of the examination guidelines are to ensure that practitioners with foreign qualifications are fit to practice within the South African context. Practitioners with foreign qualifications should approach Universities approved by the RCT Board for their Board examinations. It is thus, crucial that the Board uses standardized examinations and assessment criteria across Universities.

These guidelines are to:

2.1 Ensure a clear framework of principles, regulations and procedures all Universities should follow when conducting the Board examinations.

2.2 Ensure alignment of assessment practices across all Universities participating in the HPCSA Board examinations.

2.3 Provide a framework for the management of quality of the Board examinations for foreign qualified practitioners.

3. ADMISSION CRITERIA

All individuals who practice in any of the health care professions incorporated within the scope of the HPCSA are obliged by the Health Professions Act, 1974, to register with the HPCSA, as such failure to do so, constitutes a criminal offense.

In terms of the policy of the Professional Board for Radiography and Clinical Technology all foreign qualified candidates are required to challenge the entry examination in order to determine their eligibility to register with HPCSA. Registration with HPCSA does not imply in any way that employment is guaranteed. The onus for finding employment rests with the candidate.

The following admission criteria must apply:

3.1 Only candidates who qualify for registration (if applicable) to practice in the country where they have obtained their first radiography qualification will be allowed to sit for the examination.

3.2 The duration of the radiography training should have been a minimum of three (3) successful years. Should the duration of the training be less than three (3) years, the candidate should be advised to approach an accredited training institution to apply to upgrade their qualification. The rules and requirements of that institution will apply. The onus for arranging this rests solely with the candidate and is not a function of the Board.

3.3 The candidate's radiography training should be of an academically acceptable standard and must be comparable to the academic standard of the South African Qualifications Authority (SAQA). The candidate should further have had two years clinical training post-graduation in line with the South African requirement.

4 APPLICATION AND EXAMINATION PROCESS

1. Candidate contact SAQA and obtain the validation that his or her graduation certificate is equavalent to a level 6 or higher. Once this confirmation is obtained, the candidate can then contact the HPCSA.
2. The Secretarait of the RCT Board sends Form 177 and a list of all the approved Higher Education Institutions (HEI) to the applicant.
3. All duly completed forms and relevant information are returned to the Secretariat of the Board at least one (1) month before set date of examination.
4. The application then serves before the Education Committee of the Board who verifies the applicant's eligibility to sit for the examination.
5. The HEI is informed of the candidates eligibility to sit for examination
6. Candidate approaches the HEI of his or her choice and enquires about the application process to apply for the HPCSA Board Examination.
7. Candidate submits all duly completed forms and relevant documentation to the approved Institution of Higher Education of choice.
8. The Institution notifies the candidate of his/her eligibility to undertake the examination and sends most recent information to the candidate i.e. application requirements, examination dates, venues, times, fees and any other relevant information.
9. The Theoretical and Clinical Examinations are set, moderated and conducted by the HEI.
10. The candidate should abide by HEI examination processes and rules.
11. The HEI as well as the candidate submit the certificate/letter of completion to RCT Board Secretariat. The candidate then apply for registration.
12. The Secretariat communicates the registration procedure to the candidate within six (6) weeks after the final examination had taken place.
13. Successful candidates will be able to register with HPCSA in the category "Public service" for two years. After two years in the public service depending on residency status the candidate may apply for indendant practice.

5 PURPOSE OF EXAMINATION

The purpose of the examination is to establish that all foreign qualified radiographers applying to work in South Africa are able to:-

5.1 Demonstrate competence in the performance of radiotherapy procedures, appropriate to the clinical presentation of the patients to ensure optimal patient preparation and planning for radiation treatment.

5.2 Apply scientific knowledge and professional skills to perform therapeutic procedures for the accurate delivery of the radiation treatment prescribed.

5.3 Able to apply knowledge, clinical skills, human rights, medical law and ethics to provide and facilitate holistic patient care responsibly and effectively according to patients' needs.

5.4 Demonstrate a critical understanding and application of quality assurance and radiation protection as appropriate to Radiation Oncology.

5.5 Demonstrate scientific knowledge and technical skills to perform basic radiation oncology laboratory techniques and procedures for optimal patient immobilisation and accurate delivery of the prescribed radiation treatment.

5.6 Demonstrate appropriate administrative / management skills and competencies appropriate to working in Radiation Oncology.

5.7 Display knowledge and understanding of the principles of and treatment accessories used in Radiation Oncology. (Note that familiarity with particular equipment brands is not a requirement).

5.8 Display an awareness and understanding of the South African health care system.

6 ADMISSION TO THE EXAMINATION

Approval for entry to the examination must be granted by the Education, Training and Registration Committee of the Professional Board for Radiography and Clinical Technology.

The candidate must comply with the application and examination requirements set by the HEI. Failure to comply will result in exclusion from the examination.

7 EXAMINATION PRINCIPLES FOR HEI

The Board Examination must be founded on good principles of practice. The following principles shall apply-

7.1 The HEI must communicate the purpose of the Board Examination and format of the Board Examination to its candidates prior to assessment.

7.2 The Board Examination should include a wide range of assessment approaches and methods that are fit for purpose; the use of integrated assessment is recommended.

7.3 Quality assurance is integral to assessment and is the responsibility of the relevant HEI.

7.4 The Board Examination must be *Fair* and set in accordance to HEI standard principles ensuring that candidates are treated equally and in an unbiased manner and that all candidates have access to the appeal mechanisms of the HEI.

7.5 The Board Examination must be *Transparent*, to ensure that assessors, candidates and moderators understand the system and have the assurance that it is well planned and properly regulated.

7.6 The Board Examination must be *Reliable*, in ensuring that the accuracy and consistency of the results and judgements made. This would be evident in that the same judgments pertaining to standards of assessments, assessment evidence and marks would be attained regardless of who the assessor is or how many different people are assessing.

7.7 The Board Examination must be *Valid*, in ensuring that the Board Examination assesses what it was set out to assess in respect outcomes stated in Section 6 of this document.

7.8 The Board Examination must be *Clear*, in ensuring that the language used clearly expresses the requirements against which student performance is measured and that it incorporates a mechanism to avoid assessor/moderator deviation, inconsistency and error.

8 FORMAT OF EXAMINATION

The examination is held annually in June/ July of each year. The theoretical examination and clinical assessment will be conducted on the same day.

Section 1: Theoretical Examination

8.1 This examination consists of a 3-hour paper that is set at the equivalent level of the South African qualification.

8.2 This examination covers the integration of the following: radiation therapy treatment techniques; radiation physics; radiation dose planning (including localization); radiobiology; care of the patient undergoing radiation treatment; general oncology principles; construction of immobilization devices and beam modification devices

Section 2: Clinical Assessment

The venue for the clinical examination is approved by the Education Committee of the Board.

8.1 The clinical assessment will be in 2 parts. The assessment will be set at the equivalent of the South African radiotherapy qualification.

8.2 Part 1 of the clinical assessment will consist of four (4) tasks or assessment stations (in the case of an OSCE) that take approximately twenty (20) minutes per task.

8.3 This examination includes the critical assessment of all or any combination of simulator and portal images; dose calculations; mould-room practice; computerized treatment planning.

8.4 After a short recess the candidate will proceed to Part 2 of the clinical assessment. This will involve the treatment set-up, image verification and treatment delivery for two (2) patients. This can be simulated assessment or involve patients.

The assessment criteria for Part 2 of the clinical examination will include the following:

- Preparation of room and accessories for treatment
- Patient preparation
- Patient care and communication
- Systematic team approach to treatment set-up
- Systematic approach to treatment delivery
- Recording of patient treatment
- Safe handling of equipment and accessories
- Quality assurance of port-images taken

9 CALCULATION OF FINAL MARK

Theoretical examination – contributes 50% towards final mark

Clinical assessment – contribute 65% towards final mark

10 FULFILLMENT FOR REGISTRATION

10.1 A sub-minimum of 50% is required for the Theoretical examination.

10.2 A sub-minimum of 50% is required for each task of Part 1 of the clinical assessment.

10.3 A pass mark of 65% for Part 2 of the clinical assessment must be obtained.

10.4 The candidate is required to obtain an overall final mark of 50% in order to register with HPCSA.

The candidate will only be allowed to sit for the entry examinations for a maximum of two (2) times.

11 BRIEF OVERVIEW OF 3rd YEAR TECHNIQUE SYLLABI

11.1 Radiation therapy – treatment of tumours according to anatomy:

skin & lip; oral cavity; tonsil; nasopharynx; larynx; gastro-intestinal; thymus; pancreas; liver; lung; cervix; kidney; bladder; testes; urthera; penis; soft tissue; bone; paediatric cancers; breast; non-malignant tumours, with regard:-

- patient history
- history, staging and spread
- investigations
- target volume
- treatment methods
- treatment technique
- prescription dose
- aspects of set-up
- verification
- documentation
- side-effects
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11.2 Radiation Dose planning – Immobilization and localization of sites mentioned in radiation therapy; principles of dose planning; dose specifications; combination and calculation of external beam fields; electron beam dose

planning; contouring methods; beam modifications; 2-dimensional and 3-dimensional treatment planning;

Treatment equipment – superficial x-rays; orhtovoltage machines; Cobalt-60 machines; Linear accelerators; Brachytherapy treatments; sealed and un-sealed radio-active source treatments

11.3 Clinical Oncology – Management of tumour sites mentioned in radiation therapy, in terms of: tumour pathology, tumour spread, clinical presentations, complications, prognosis, treatment methods, diagnosis, histology, investigations, staging, primary aim of treatment, dose and fractionation, multi-disciplinary approach, systemic treatment, clinical trials

11.4 Radiation Physics & protection – Interaction of photons with material; attenuation processes; Half-value layer; effect of photons on material; luminescence; fluorescence; radiation measurement; radiation quality; filters; clinical radiation generators - kV & MV x-rays, Cobalt-60, accelerated particles; radiation protection – dose equivalent, protection, personnel monitoring; brachytherapy; beam calibration.

12 SUGGESTED READING LIST

Title	**Author/s**	**Publisher**	**Edition**
Practical Radiotherapy Planning.	Dobb J , Barratt A, Ash D.	London : Edward Arnold, 1999	3rd edition. ISBN: 0340706317
Walter & Millers text-book of Radiotherapy: Radiation Physics, Therapy & Oncology.	Bomford CK, Kunkler IH, Sherriff SB, J Walter & H Miller	Churchill Livingstone, 2001.	6th edition ISBN: 0443062013.
Clinical Oncology: A multi-disciplinary approach for Physicians & students.	Rubin P	WB Saunders, 2001	ISBN: 0721674968

Treatment Planning in Radiation Oncology.	Khan, F.M.	Lippincott Williams and Wilkins, 2003.	3rd edition ISBN: 0781730651
The Modern Technology of Radiation Oncology.	van Dyk, J.	Medical Physics Publishing, 1999	
Supportive care in Radiotherapy.	Faithfull S,and Wells M.	Churchill Livingstone, 2003.	ISBN: 0443064865.
Radiation Oncology: Management	Chao KSC, Perez CA, and Brady LW.	Lippincott Williams and Wilkins, 2001	2nd edition . ISBN: 0781732220

13 REMARKING OF SCRIPTS

13.1 Only candidates who had obtained a pass rate of 45-49 % in the theoretical examination may apply for their scripts to be remarked.

13.2 A remarking fee will be charged for all remarking requests.

13.3 The Institution shall determine its remarking fee and candidates should contact the institution concerning the procedure to be followed when requesting a remark.

14.5 Should a candidate pass the theoretical examination but fail the clinical examination, one further attempt will be allowed (See section 11 above).

14 ADDITIONAL INFORMATION

For further enquiry contact:

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